

REMARKS

Claims 1 and 3-6 are now pending in the application. Applicant amends claims 1, 4, 5 and 6, and cancels claim 3. Support for the amendments can be found throughout the specification, claims and drawings as originally filed. Accordingly, no new matter is added. Applicant respectfully requests reconsideration and withdrawal of the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 103

Claims 1 and 3-6 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Motoshi (JP 10-044399) in view of Takeshi et al. (JP 2000-334965). This rejection is respectfully traversed. Notwithstanding Applicant's traverse and solely in the interest of expediting prosecution, Applicant amends claims 1 and 5.

Amended claim 1 recites a method of recognizing an image of a nozzle hole. In the method, a strobe intermittent emits light to a nozzle hole of a liquid droplet ejection head in a state of being filled with a function liquid to perform image recognition thereof. Synchronously with the intermittent emitting of light from the strobe, a driving waveform is applied to the liquid droplet ejection head. The driving waveform causes single-period micromotion of a meniscus surface of the nozzle hole. Advantageously, the image recognition is only performed when the strobe emits light and the strobe only emits light at a timing in which the meniscus surface is pulled into an inside of the nozzle hole due to the driving waveform.

Amended claim 5 recites a method of inspecting a nozzle hole. In the method, a strobe intermittently emits light to a nozzle hole of a liquid droplet ejection head in a

state of being filled with a function liquid to check for foreign matter adhered thereto. Also, a driving waveform is applied to the liquid droplet ejection head to pull a meniscus surface of the nozzle hole to an inside thereof. Advantageously, the check for foreign matter is only performed when the strobe emits light and the strobe only emits light at a timing in which the meniscus surface is pulled into the inside of the nozzle hole due to the driving waveform.

Thus, amended claims 1 and 5 now recites that the image recognition/checking is only performed when the strobe emits light, and the strobe only emits light at a time when the meniscus surface is pulled into the inside of the nozzle hole. Support for this subject matter can be found at least in the last paragraph of page 24 of Applicant's specification as originally filed. Accordingly, no new matter is added.

It is a longstanding rule that to establish a prima facie case of obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. In re Royka, 180 USPQ 143 (CCPA 1974), see MPEP §2143.03. Furthermore, when evaluating claims for obviousness under 35 U.S.C. §103, all of the limitations must be considered and given weight. Ex parte Grasselli, 231 USPQ 393 (Bd. App. 1983), MPEP § 2144.03. Here, the alleged combination fails to disclose that a strobe only emits light at a time when the meniscus surface is pulled into the inside of the nozzle hole.

More particularly, paragraph [0020] of Motoshi teaches that an emitting phase timing is established for the strobe when picturing is performed. The emitting phase timing corresponds to the trailing edge of the ink ejecting pulse to the emission of the

strobe. As such, Motoshi fails to teach emitting light from the strobe only at a time when the meniscus is pulled into the inside of the nozzle hole as claimed.

Inasmuch as the prior art fails to teach or suggest all of the claim limitations, the prior art cannot render claims 1 and 5 unpatentable. Therefore, Applicant respectfully requests reconsideration and withdrawal of this rejection.

Claims 4 and 6 depend from claims 1 and 5 respectively and should be in condition for allowance for at least the same reasons as set forth above.

Claim 3 is cancelled.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner

believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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By: /G. Gregory Schivley/
G. Gregory Schivley
Reg. No. 27,382
Bryant E. Wade
Reg. No. 40,344

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600

GGs/BEW/pvd